

USSN: 10/563,601  
 U.S. National Phase of PCT/EP2004/051454  
 Attorney Docket: 1-2003.005 US  
 Preliminary Amendment

### **Amendments to the Claims:**

The following is a complete claim set with status identifiers. Please substitute the pending claims with the following claim set:

1. (currently amended) An isolated amino acid sequence comprising an amino acid sequence selected from the group consisting of: Babesia protein, characterised in that said protein comprises an amino acid sequence having a homology of at least 70% with the amino acid sequence from amino acid position 17 to position 180 in SEQ ID NO: 2;
  - (i) amino acids 17 to 180 of SEQ ID NO: 2,
  - (ii) amino acids 17 to 180 of SEQ ID NO: 4, or and
  - (iii) an immunogenic fragment of (i) or (ii) of said protein;wherein said sequence provides prophylactic or therapeutic treatment of an infection or its clinical signs caused by an organism of the family Babesiidae.
2. (currently amended) The sequence Babesia protein according to claim 1, characterised in that said protein comprises an amino acid sequence having a homology of at least 70% with the amino acid sequence as depicted in comprising SEQ ID NO 2[.], or an immunogenic fragment thereof of said protein.
3. (currently amended) The sequence Babesia protein according to claim 1, characterised in that said protein comprises an amino acid sequence having a homology of at least 70% with the amino acid sequence as depicted in comprising SEQ ID NO 4[.], or an immunogenic fragment thereof of said protein.
4. (currently amended) A nucleic Nucleic acid, characterised in that [[it]] encodes the sequence protein according to claim 1, claims 1-3, or an immunogenic fragment of said protein.
5. (currently amended) The nucleic Nucleic acid according to claim 4, characterised in that it comprises comprising the nucleic acid of SEQ ID NO: 1.

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6. (currently amended) The nucleic ~~Nucleic~~ acid according to claim 4, characterised in that it ~~comprises~~ comprising the nucleic acid of SEQ ID NO: 3.
7. (currently amended) A cDNA fragment comprising ~~[[a]] the nucleic acid according to claim 4~~ claims 4-6.
8. (currently amended) A recombinant ~~Recombinant~~ DNA molecule comprising ~~[[a]] the nucleic acid according to claim 4~~ claims 4-6 or a cDNA fragment according to claim 7, under the control of a functionally linked promoter.
9. (currently amended) A live ~~live~~ recombinant carrier comprising ~~[[a]] the nucleic acid according to claim 4~~ claims 4-6, a cDNA fragment according to claim 7 or a recombinant DNA molecule according to claim 8.
10. (currently amended) A host ~~Host~~ cell comprising ~~[[a]] the nucleic acid according to claim 4~~ claims 4-6, a cDNA fragment according to claim 7, a recombinant DNA molecule according to claim 8 or a live recombinant carrier according to claim 9.
11. (currently amended) A vaccine ~~Vaccine~~ comprising
  - i) ~~[[a]] the sequence~~ protein according to claim 1; ~~claims 1-3~~ or an immunogenic fragment of said protein, a nucleic acid according to claims 4-6, a cDNA fragment according to claim 7, a recombinant DNA molecule according to claim 8, a live recombinant carrier according to claim 9 or a host cell according to claim 10, or a combination thereof; and
  - ii) a pharmaceutically acceptable carrier.
12. (currently amended) The vaccine ~~Vaccine~~ according to claim 11, characterised in that it ~~comprises~~ further comprising an adjuvant.

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13. (currently amended)      ~~The vaccine~~ Vaccine according to claim 11, ~~claims 11-12~~, characterised ~~in that it comprises~~ further comprising an additional immunoactive component or a nucleic acid encoding said additional immunoactive component.
14. (currently amended)      The vaccine Vaccine according to claim 13, ~~characterised in that~~ wherein said additional immunoactive component or nucleic acid encoding said additional immunoactive component is obtained from an organism selected from the group consisting of *Ehrlichia canis*, *Babesia gibsoni*, *B. vogeli*, *B. rossi*, *Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans serovar canicola*, *Leptospira interrogans serovar icterohaemorrhagiae*, *Leptospira interrogans serovar pomona*, *Leptospira interrogans serovar grippityphosa*, *Leptospira interrogans serovar bratislava*, Canine hepatitisvirus, Canine parainfluenzavirus, rabies virus, *Hepatozoon canis* and *Borrelia burgdorferi*.
15. (currently amended)      A vaccine ~~Vaccine~~, characterised ~~in that it comprises~~ comprising
- i) an antibody against ~~[[a]] the sequence protein according to claim 1, claims 1-3 or an antibody against an immunogenic fragment of said protein, or a combination thereof, and~~
  - ii) a pharmaceutically acceptable carrier.
16. (currently amended)      A method ~~Method~~ for the preparation of a vaccine ~~according to claims 11-14, said method~~ comprising the admixing of
- i) ~~[[a]] the sequence protein according to claim 1, claims 1-3, or an immunogenic fragment of said protein, a nucleic acid according to claims 4-6, a cDNA fragment according to claim 7, a recombinant DNA molecule according to claim 8, a live recombinant carrier according to claim 9 or a host cell according to claim 10, or a combination thereof, and~~
  - ii) a pharmaceutically acceptable carrier.
17. (currently amended)      A method ~~Method~~ for the preparation of a vaccine ~~according to claim 15, said method~~ comprising the admixing of

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- i) an antibody against ~~[[a]]~~ the sequence ~~protein~~ according to claim 1 ~~claims 1-3 or an~~  
~~antibody against an immunogenic fragment of said protein and~~
  - ii) a pharmaceutically acceptable carrier.
- 18. (currently amended) A method of prophylaxis or treatment ~~Use of a protein according to~~  
~~claims 1-3 or an immunogenic fragment of said protein for the manufacture of a vaccine for~~  
~~prophylactic or therapeutic treatment of an infection or its clinical signs caused by an organism of~~  
the family Babesiidae, comprising administering a vaccine comprising the sequence according to  
claim 1.
- 19. (currently amended) A diagnostic ~~Diagnostic~~ test for the detection of a nucleic acid  
associated with an organism of the family Babesiidae, ~~characterised in that the test comprises~~  
comprising a nucleic acid sequence selected from the group consisting of:
  - (i) ~~a nucleic acid, said nucleic acid being at least 70 % homologous to the nucleic acid~~  
~~sequence depicted in SEQ ID NO: 1 [[or 3, or]];~~
  - (ii) a fragment of SEQ ID NO: 1 at least 12 nucleotides long;
  - (iii) SEQ ID NO: 3;
  - (iv) a fragment of SEQ ID NO: 3 at least 12 nucleotides long; and
  - (v) a nucleic acid that is complementary to any of (i) through (iv) said nucleic acid, wherein  
either of the nucleic acids have a length of at least 12, preferably 15, more preferably 18  
nucleotides.
- 20. (currently amended) A diagnostic ~~Diagnostic~~ test for the detection of antibodies against an  
organism of the family Babesiidae, ~~characterised in that said test comprises a protein comprising the~~  
sequence according to claim 1 ~~claims 1-3, or an immunogenic fragment of said protein, or a~~  
~~combination thereof.~~
- 21. (currently amended) A diagnostic ~~Diagnostic~~ test for the detection of antigenic material from  
an organism of the family Babesiidae, ~~characterised in that said test comprises~~ comprising an

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antibody against ~~a protein~~ the sequence according to claim 1 claims 1-3 ~~or an antibody against an~~  
~~immunogenic fragment of said protein, or a combination thereof.~~